

## ABSTRACT

A clamp for a FET switch utilizes a surge detector to turn off one of two bias circuits for the FET. The first biasing circuit provides the current necessary for high speed switching. The second biasing circuit provides a lower biasing current. A resistor or other device is used to allow the measurement of  $BV_{dss}$  on the integrated circuit where the surge detector is connected from a terminal of the conductive path of the FET to the gate thereof. The switching circuit allows the surge detector to turn on the FET to act as a self-clamp when there is a spike in the voltage applied to the FET, such as when turning off an inductive load.